

Aircraft Certification Service AD PROPOSAL WORKSHEET

DOCKET NUMBER: 04-NE-30 (Revised 8/25/4)

TECH WRITER:

PROPOSED ACTION:

- ☐ Telegraphic AD
☐ Priority Letter
☐ Immediately Adopted AD
☐ Federal Register version of Telegraphic AD or Priority Letter
☐ Final Rule after NPRM (*See Note on next page)
☒ Notice of Proposed Rulemaking
☐ Other _____

Is this proposed action one of the following? (Check if applicable):

☐ Supersedure of an AD ☐ Revision of an AD ☐ Supplemental NPRM**1. Product Manufacturer**

Rolls Royce

2. Applies to (models, serial numbers or references, installations, part numbers, as applicable).

Tay 650-15 engines. These engines are used on but are not limited to the Fokker F100 aircraft.

3. ACO project engineer

Name/Title/Branch: Ian Dargin

Telephone: 781-238-7178

Fax: 781-238-7199

4. Directorate Project Officer (if applicable) and title.

Name/Title/Branch: Marc Bouthillier

Telephone: 781-238-7120

Fax: 781-238-7199

5. If this action is a Final Rule after NPRM, list the docket number and the number of public comments received. Fill out the "AD Proposal Worksheet Attachment: Disposition of Comments."

Docket No.:

Number of comments received:

**NOTE: For Final Rules after NPRM, if any of the following requested information (in Questions 6 through 23) is unchanged from the NPRM, you may so indicate this in the space provided, rather than repeat the information.)*

6a. Describe the **unsafe condition**.

On-wing and in-shop inspections have found excessive wear on the high pressure compressor (HPC)/ high pressure turbine (HPT) shaft splines. The HPC shaft spline wear rate is four times faster than the HPT shaft spline wear. Excessive wear could result in spline disengagement and an overspeed event that could result in an uncontained engine failure and possible damage to the aircraft.

6b. Describe the **cause** of the unsafe condition.

Excessive HPC/ HPT shaft spline flank wear.

6c. Describe the occurrences that **prompted** this proposed AD action.

A number of occurrences of severe shaft spline flank wear was found on the HPC and HPT shaft splines during both on-wing and in-shop inspections.

6d. How many such occurrences have been reported?

38 engines out of 238 engines inspected have been found with various degrees of shaft spline flank wear. Approximately 5% have been found with excessive wear.

6e. On what date did the FAA become aware of the situation?

July 2003.

7. Was this proposed action prompted by a manufacturer's quality control (QC) problem? If so, is a reporting requirement needed in the AD to determine the scope of the problem? *(If yes to either of these questions, coordinate with cognizant MIDO.)*

No.

8. Was this proposed action prompted by the use of suspected unapproved parts (SUP)?

No.

9. Is this action related to an NTSB safety recommendation? If yes, attach a copy of that recommendation and the FAA response.

No.

TAY-72-1485,
Revision 1 or
Revision 2

Inspect

Per Table 1

At the initial inspection: (a) If no wear or wear less than .03 inches, repeat the inspection within 5500 cycles. (b) If spline wear is greater than or equal to .03 but less than .06 inches (from service bulletin calculation), repeat the inspection within 1000 cycles. (c) If spline wear is equal to or greater than .06 inches but less than .1 inches, schedule for engine removal within 500 cycles. (d) If Indicated spline wear is found to be .1 or greater (from Service Bulletin calculation), remove engine from service within 50 cycles.

None

11b. How was the compliance time(s) established?

Statistical analysis coupled with on-wing and in-shop inspections.

11c. Has the manufacturer issued relevant service information? If so, attach 2 copies. *(Copies must be legible and of very good quality. Originals are preferred.)*

Yes. Rolls Royce Service Bulletin TAY-72-1485, Revision 2, dated March 21, 2003.

On the basis of 100% HPC shaft replacement, the projected cost to replace these HPC shafts is 172 engines x \$13,862 per HPC shaft per engine = \$2,384,264 (note 1)

Note1: This assumes that 100% of the costs would be paid by the operator and does not include a reduction factor for used life. No labor cost at overhaul.

FOR THE **EXISTING** AD (i.e., the one to be superseded or revised), **if applicable**.

Type of Corrective Action	Number of Workhours per aircraft	Number of U.S. Aircraft Affected	Parts Costs per aircraft
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N/a

14. If parts are **required**, are they available for all aircraft?

N/a.

15. If known, please indicate the number of affected aircraft that are already in compliance with the proposed inspection, modification, installation, or replacement, etc.

Not known.

16. Should a special flight permit be:

☒ Permitted

☐ Permitted with limitations (*List the limitations on a separate sheet.*)

☐ Prohibited

17. In general, how is the product utilized (i.e., air carrier, general aviation, commuter, military, agri-business, training, etc.)?

Air carrier.

18a. If this proposed AD would revise or supersede an existing AD, have alternative methods of compliance (AMOC) been approved for the existing AD?

No.

19. With whom outside the FAA has this proposal been discussed (i.e., ATA, NBAA, RAA, AOPA, ALPA, GAMA, etc.)? *(A separate record may need to be submitted to the Rules Docket. See paragraph 3, "Ex parte Contacts," of the AD Manual.)*

NOTE: This item should be completed prior to submission of the AD Proposal Worksheet.

Organization	Person Contacted	Date	Reaction
Airline Transport Association	Robert Peel	July 12, 2003	Concur

20. Are there any special considerations or concerns that need to be taken into account in the drafting of this proposal? *(Use a separate sheet to detail these items, if necessary.)*

No.

21. Do you have reason to believe that this action would be considered "sensitive?" *(See Section 15 of the AD Manual for a definition of "sensitive".)* If yes, please explain below.

No.

22. Please indicate **Yes** or **No** to the following questions:

No___ Is this considered interim action?

No___ Do you know of any optional or alternative methods of accomplishing the proposed action?

Yes___ Have you considered any alternatives to an AD action?

No___ Are other Directorates involved in any similar actions?

No___ Does this action affect the Presidential fleet?

No___ Does this action affect the FAA fleet?

No___ Have the proposed procedures been verified (i.e., by MIDO, AEG, ACDO, FSDO)?

23. Check the category that best describes **the cause of the unsafe condition** addressed by this AD:

☒ Design Problem

☐ Maintenance

☐ Quality Control Problem

☐ Unapproved Parts


☐ Operational

☐ Other (specify):

Signature Section

(Signature indicates concurrence with proposed action)

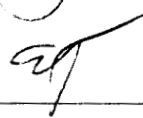
John F. (Ian) Dargin III
Project Engineer



8/24/2004

Date

Eugene Triozzi
Branch Manager



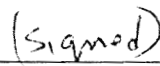
8/27/04

Date

N/a
ACO/Staff Office Manager

Date

Roger Love
AEG Representative



7/20/04

Date

N/a
MIDO Representative*

(MIDO signature required if QC problem involved.)

Date

*Enforcement action status? _____

23. Check the category that best describes the cause of the unsafe condition addressed by this AD:

☒ Design Problem

☐ Quality Control Problem

☐ Operational

☐ Maintenance

☐ Unapproved Parts

☐ Other (specify):

TAY 650-15 NPRM

Signature Section

(Signature indicates concurrence with proposed action)

John F. Dargin III

Project Engineer

Date

Ann Mollica

Acting Branch Manager

Date

ACO/Staff Office Manager

Date

Roger Love

AEG Representative

Date

N/a

MIDO Representative*

Date

(MIDO signature required if QC problem involved.)

*Enforcement action status? _____